

### **Remarks**

Claims 1-14 are pending in the case. Claims 1-14 have been rejected by the Examiner under 35 U.S.C. 102(b) as being anticipated by Ishida et al. (U.S. Pat. No. 5,860,057). Claims 1-6, 8-11 and 13 are amended and claims 12 and 14 are canceled.

The allegation of anticipation is not well taken.

It is of interest to note that the interference cancellation system and method taught by Ishida is entirely devoted to earth stations in a satellite communications system that has means for canceling received return signal due to the local transmission signal so as to result in the desired signal transmitted from a second earth station via the satellite (emphasis ours). There is no teaching or suggestion of such an interference cancellation system for the satellite payload.

In contrast, claim 1 (and claims 2-9 that depend from claim 1), 10 and 11 contain specification limitations that the system and method are related to the interference cancellation on a satellite payload.

#### **Re: Rejection of claim 1-9.**

Claim 1 has been amended to incorporate the limitation of digitally canceling interference on a first plurality of received signals using a second plurality of interference reference feedback signals. This limitation is taught in Figure 4 and paragraph [0032].

It is to be noted that the newly added limitation to claim 1 is related to claim 8 as originally filed and the patentability of the amended claim 1 can be better understood via an analysis of the rejection of the claim 8 as originally filed. In rejecting claim 8 as originally filed, which recites a method as in claim 1 further comprising simultaneously digitally canceling interference on a plurality of received signals, the Examiner has stated

that “Ishida teaches a method further comprising simultaneously digitally canceling interference on a plurality of received signals (col 3 lines 5 lines 40-67, col 6 lines 1-45).” It is the applicants’ understanding that the quoted passage is col. 5 lines 40-67 and col 6 lines 1-45 and Figure 5 should be read in conjunction with the quoted passage. As taught by Ishida, on the side of the HUB station with a large antenna and a high power amplifier, signal  $S_V$  from each Very Small Aperture Terminal (VSAT) can be easily received via a satellite through cancellation of the local transmission signal  $S_H$ , indicating that a single interference reference feedback signal is used (emphasis ours). On the side of the VSAT, signal canceling is not necessary because  $S_H$  is large. There is no teaching or suggestion of “digitally canceling interference on a first plurality of received signals using a second plurality of interference reference feedback signals” as claimed in our claim 1.

Further, in rejecting claim 1, the Examiner asserts “Ishida teaches a method of digitally canceling interference on a received signal comprising adaptively canceling interference on the received signal using an interference reference feedback signal, the feedback signal acquired downstream from a digital processor” and quoted col 8, lines 32-57 to support this position. However, it is the applicants’ position that the quoted lines in Ishida are entirely devoted to a transmission system and have nothing to do with the reception system and interference cancellation system contained therein.

Claim 2-9 depend from claim 1 directly or indirectly.

Therefore, it is the applicants’ position that claims 1-9 are not anticipated by Ishida and the instant rejection thereof should be withdrawn.

**Re: Rejection of Claim 10.**

Claim 10 has been amended to incorporate the limitation of digitally canceling interference on a first plurality of received signals using a second plurality of interference reference feedback signals. As argued with respect to claim 1, this amendment will clearly distinguish the claim 10 from Ishida.

Further, the Examiner asserts that Ishida teaches “a correlator correlating said interference reference feedback signal to said desired signal to generate an error signal (col 8, lines 26-67, col 0032).” However, it is the applicants’ position that the quoted lines do not teach or suggest a correlator functioning as claimed by the present invention.

Therefore, rejection of claim 10 should be withdrawn.

**Re: Rejection of claims 11 and 13.**

The limitations of claim 12 have been entirely incorporated into the independent claim 11. Claim 12 is now canceled through the proffered amendment.

In rejecting claim 12, the Examiner asserts that Ishida teaches “a correlator electrically coupled to a subtractor (0026, 0030-0031), said correlator comparing a interference reference feedback signal to said desired signal to generate an error signal” and cited col 11, lines 5-67 and col. 12 lines 1-15 as support for this reading. However, it is the applicants’ position that the quoted lines do not teach or suggest a correlator functioning as claimed by the present invention.

Similarly, in rejecting claim 13, the Examiner asserts that Ishida teaches “a correlator electrically coupled to said summing junction, said correlator comparing said interference reference signal to said desired signal to generate an error signal and cited col 6, lines 46-67 and col 7, lines 1-39 as support for this reading. However, it is the

applicants' position that the quoted lines do not teach or suggest a correlator functioning as claimed by the present invention.

Further, claims 11 and 13 have been amended to incorporate the limitations of digitally canceling interference on a first plurality of received signals using a second plurality of interference reference feedback signals. As argued with respect to claim 1, this amendment will clearly distinguish the claims 11 and 13 from Ishida.

Therefore, rejection of claims 11 and 13 should be withdrawn.

In view of the foregoing, it is the applicants' position that the claims of the present invention are not anticipated by the Ishida patent. It is submitted that this application is in condition for formal allowance and notification to this effect is now respectfully requested.

Respectfully submitted,

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